J Infect Dis. 1978 Aug;138(2):174-80.

Solid-phase radioimmunoassay for detection of staphylococcal antigen in serum of rabbits with endocraditis due to Staphylococcus aureus.

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To aid in the rapid diagnosis of staphylococcal infection, a solid-phase radioimmunoassay for Staphylococcus aureus antigen was developed and evaluated in rabbits with staphylococcal endocarditis. Test specimens containing antigen were added to polystyrene tubes coated with antibody to S. aureus. Antigens immobilized on the tube were detected by adding radiolabeled antibody to S. aureus. Sensitivity for antigen was 0.312 microgram/ml in buffer and 1.25 microgram/ml in 50% rabbit serum. Cross-reactions were not observed with antigens extracted from streptococci; however, antigen extracted from Staphylococcus epidermidis (which contained ribitol-teichoic acid) could also be detected at low concentrations. Antigen was detected in each of 12 rabbits with S. aureus endocarditis but not in control rabbits. This assay is sensitive, specific, reproducible, and capable of detecting antigens in the serum of rabbits with endocarditis.

PMID: 79624 [PubMed - indexed for MEDLINE]